

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- February 2023

B.Tech. ECE/CE/BI/BT 8th Semester

COURSE CODE: 21B1WCI831

MAX. MARKS: 15

COURSE NAME: DIGITAL TWIN – FUNDAMENTAL CONCEPTS TO APPLICATIONS IN ADVANCED MANUFACTURING

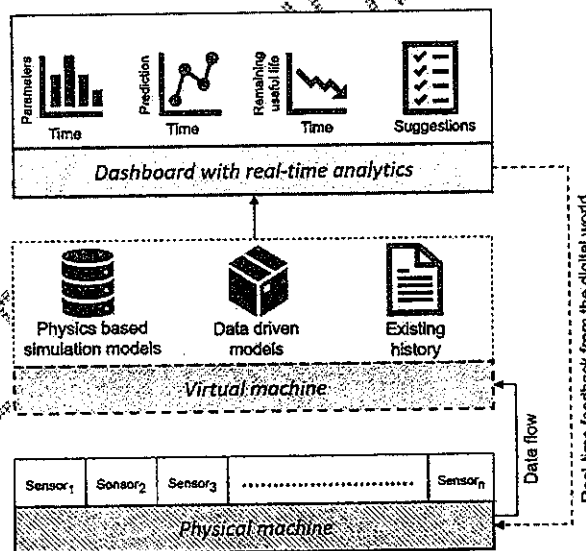
COURSE CREDITS: 03

MAX. TIME: 1Hr

COURSE INSTRUCTOR: Prof. (Dr.) Vivek Kumar Sehgal

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

- (a) Give the evolution details of industrial revolutions from Industry 1.0 to 4.0. CO- 1 [2.5]
 - (b) Explain the key-aspects of a digital twin model from following pictorial schematic. CO- 1 [2.5]



- (a) What are the components for envisaging the digital twin? CO- 1[2.5]
 - (b) What are the two categories to which data analytics can be applied? CO- 1 [2.5]

- (a) List the sensing principle of various types of sensors. CO- 2[2.5]
 - (b) Define piezoelectric effect and deduce its relation with force. CO- 2[2.5]